

### **REMARKS**

At the time the current Official Action was mailed, the Examiner rejected claims 1-20. In the present Response, claim 1 has been amended. Accordingly, claims 1-20 remain pending in the application. Reconsideration of the application in view of the remarks and amendments set forth below is respectfully requested.

In the Official Action, the Examiner objected the drawings as failing to comply with 37 C.F.R. § 1.84 (p)(5). Further, the Examiner rejected claims 1-4 and 6-20 under 35 U.S.C. § 103 (a) as being unpatentable in view U.S. Patent No. 6,415,318 to Aggarwal et al., which is herein referenced referred to as “the Aggarwal reference,” and U.S. Patent No. 6,393,484 to Massarani, which is herein referred to as “the Massarani reference.” In addition, the Examiner rejected claim 5 under 35 U.S.C. § 103 (a) as being unpatentable over the Aggarwal and Massarani references along with U.S. Application No. U.S. 20010005883 to Wray et al., which is herein referred to as “the Wray reference.” Each of the objection and rejections are addressed in detail below.

#### **Objection to the Drawings**

Under 37 C.F.R. § 1.84 (p)(5) because figure 4 is not mentioned in the specification. The Applicant respectfully traverses this objection. The Applicant respectfully asserts that Figure 4 is described in the present application. Specifically, the application does describe Figure 4, as noted below:

FIG. 4 is a block diagram illustrating a publish and subscribe mode of communication between agents in different

enterprises in accordance with one embodiment of the present invention.

Application, page 8, lines 14-16.

Further, the application also states:

The message publish server carried by a software agent (e.g., an E-Carry agent) and registered with the E-Speak service bus, implements the same interface as *AgentMsgService*, with a single method *sendMsg (String message)*. Referring to FIG. 4, the message publish server is registered as a *virtual agent domain:AgentMsgPublisher*. Therefore, when an E-Carry software agent publishes a message, it sends the message to the *AgentMsgPublisher* server by employing *espeak:AgentMsgPublisher* as the address, which is similar to sending a message to an agent domain.

Application, page 15 lines 10-17.

Because the present application does describe Figure 4 in the specification, the drawings do comply with 37 C.F.R. § 1.84 (p)(5) as the reference to the Figure 4 in the originally filed application and drawings. Thus, the Applicant submits that the specification is sufficient and the Examiner's objection under 37 C.F.R. § 1.84 (p)(5) is unsupported. Accordingly, the Applicant respectfully requests withdrawal of the Examiner's objection.

#### **First Rejection under 35 U.S.C. § 103**

The Examiner rejected claims 1-4 and 6-20 under 35 U.S.C. § 103(a) as being rendered obvious by Aggarwal in view of Massarani. With respect for the claims 1-4 and 6-20 the Examiner stated:

5. As per claim 1, Aggarwal et al teach a method for enabling communication between a first agent in a first domain and a second agent in a second domain comprising the steps of:  
a coordinator in the first domain (column 2, lines 34-45 and Figure 2, 68; the bridgehead server coordinates the messages by

directing to the appropriate client) a send-message service (column 2, lines 24-45) with a service bus (column 2, line 35-45; network); and

the second agent in the second domain communicating with first agent by employing the service bus, the registered send-message service, and the coordinator in the first domain; wherein the method solves the interface diversity problem and does not require a central coordinator (column 3, lines 4-9 and column 10, lines 10-26; the bridgehead server performs these tasks so no central coordinator is needed).

6. Aggarwal et al fail to show a method of registering a service.

7. However Massarani shows a network that includes a DHCP (Dynamic Host Control Protocol) server that registers users by assigning IP addresses (abstract). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Aggarwal et al and Massarani to create a method for enabling communication between a first agent and a second agent by registering a message service because would provide for automated registering of services with a network allowing new services with a network to be added without user intervention.

8. As per claim 2, Aggarwal et al teach a method wherein the step of the second agent in the second domain communicating with first agent by employing the service bus, the registered send-message service, and the coordinator in the first domain includes

the coordinator providing a client-side interface for the send-message service that can be employed by other agents in different domains to communicate with the agents in the first domain; and the second agent in a second domain communicating with an agent in the first domain by employing the client-side interface for the send-message service of the coordinator (column 9, line 60-column 10 line 9).

9. As per claim 3, Aggarwal et al teach a method wherein the step of the second agent in a second domain communicating with an agent in the first domain by employing the client-side interface for the send-message service of the coordinator includes

directing a message from the second agent to the coordinator, which serves as a point of presence for agents in the first domain and the coordinator receiving the message and forwarding the message to the intended agent (column 10, lines 10-26).

10. As per claim 4, Aggarwal et al teach a method wherein the coordinator the coordinator is a point-of-presence for communication directed to agents in the first domain by agents.

external to the first domain (column 1, lines 14-19; a bridgehead server located inside the recipient's network).

11. As per claim 6, Aggarwal et al teach a method wherein the service bus is the HTTP service bus (column 6 lines 22-36).

12. As per claim 7, Aggarwal et al teach a method wherein the service bus provides one of dynamic firewall transversal services, access control services, security services, billing services, authentication services, authentication services, authorization services, and other predefined infrastructure services (column 6, lines 49-column 7 line 2).

13. As per claim 8, Aggarwal et al teach a method wherein the coordinator provides one of naming services, resource directory services, and send-message service (column 2, lines 34-45).

14. As per claim 9, Aggarwal et al teach a method wherein the step of directing a message from the second agent includes invoking a send-message (this inherent in message service software/program because in order to use the service to communicate to other you must be able to activate a send message) provided by the service bus (network); wherein the step of the coordinator receiving the message and forwarding the message to the intended recipient agent includes employing a local naming service to forward the message to the first agent (column 2, lines 34-45 and column 3, 23-37).

15. As per claim 10, Aggarwal et al teach a method wherein the step of invoking a send-message service provided by the service bus includes specifying a domain name and receiver agent name (column 8, lines 56-67).

16. As per claim 11, Aggarwal et al teach a method wherein the first agent and the second agent communicate in a publish and subscribe mode (column 8, lines 50-55, the sending client can publish messages without explicitly specifying recipients or having knowledge of intended recipients).

17. As per claim 12, Aggarwal et al teach a method wherein the first domain is a first enterprise and the second domain is a second enterprise (column 6, lines 39-48).

18. As per claims 13-17, contain similar limitations as claims 1-12 above, therefore are rejected under the same rationale.

19. As per claim 18, Aggarwal et al teach a method for enabling inter-enterprise agent communication comprising the steps of:

- a) grouping agents into a first group in a first domain; (Figure 2, clients 64 grouped into domain 60A)
- b) assigning a coordinator to the agents in the first group; (column 14, lines 36-40 and Figure 2, 68; bridgehead server)

- c) send-message service of the coordinator with a service bus; (column 2, line 23-45)
  - d) the coordinator receiving messages from a second domain; wherein the messages are directed to an agent in the first group; (column 14, lines 36-40)
  - e) the coordinator forwarding the messages to an intended recipient agent; wherein the service bus provides inter-enterprise communication services between the first domain and the second domain (column 3, lines 4-9 and column 10, lines 10-26).
20. Aggarwal et al fail to show a method of registering a service.
21. However Massarani shows a network that includes a DHCP (Dynamic Host Control Protocol) server that registers users by assigning IP addresses (abstract). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Aggarwal et al and Massarani to create a method for enabling communication between a first agent and a second agent by registering a message service because doing so would provide agents the ability to communicate using messages
22. As per claims 19 and 20, they contain the same limitations as claims 12 and 7, therefore are rejected under the same rationale.

Official Action, pp. 3-7.

Although the Applicant has amended claim 1 to clarify the claimed subject matter, the Applicant respectfully traverses the rejection. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

In the rejection, the Examiner asserted that the Aggarwal reference discloses all of the claimed subject matter except a method of registering a service. Specifically, the Examiner appears to assert that the “coordinator” of the claims corresponds to the bridgehead server in Aggarwal and that the “service bus” of the claims corresponds to a network in Aggarwal. In an attempt to cure this deficiency, the Examiner relied upon the Massarani reference to augment the teachings of Aggarwal. Specifically, the Examiner asserted the Massarani reference shows a network that includes a dynamic host control protocol (DHCP) server that registers user’s by assigning IP addresses.

However, the Applicant respectfully asserts that the combination of Aggarwal and Massarani cannot render the Applicant’s claims obvious under Section 103 because the combination does not include all of the recited features in the Applicant’s claims. For example,

independent claim 1 recites “a coordinator in the first domain registering a send-message service with a service bus.” Further, independent claim 13 recites “a coordinator in a first domain having a send-message service that is registered with the service bus.” Independent claim 18 recites “registering a send-message service if the coordinator with service bus” and “the coordinator forwarding the messages to an intended recipient agent; wherein the service bus provides inter-enterprise communication services between the first domain and the second domain.” Thus, the Applicant’s independent claims relate to registering a send-message service with a service bus.

The Aggarwal reference relates to messaging systems that are compatible with firewalls. *See Aggarwal*, col. 2, lines 14-16. In the Aggarwal reference, a bridgehead server is utilized to receive incoming messages and resolve addresses for messaging servers. *See Aggarwal*, col. 2, lines 34-40. Once the message is resolved, the message is transmitted to the messaging server from the bridgehead server. *See id.* at lines 40-45. Outgoing messages may bypass the bridgehead server and are directed to a bridgehead server at the receiving location. *See id.* at lines 46-52. Clearly, the Aggarwal reference does not disclose or suggest a coordinator in a first domain that registers a send-message service, much less registering the send-message service with a service bus. In fact, nothing is even registered within the first domain. As such, because the bridgehead server is merely providing incoming messages to various messaging servers, it fails to disclose the claimed subject matter.

Massarani fails to cure the deficiencies of Aggarwal. The Massarani reference relates to a method of providing IP network services. *See Massarani*, col. 3, lines 7-10. In

Massarani, a shared medium network 14 includes a DHCP server 30 that assigns TCP/IP information to end user devices. *See* Massarani, Fig. 1, col. 4, lines 64-67. The DHCP server 30 receives a broadcast from the routers  $22^{1-N}$  coupled to clients to allocate TCP/IP information. *See* Massarani, col. 4, line 67 to col. 5, line 6. The communication of this system is disclosed in the reference as follows:

Network Service Provider Administrators configure all the edge routers  $22^1, \dots, 22^N$  to disable automatic resolution of IP addresses to MAC addresses on outbound interfaces to shared-medium network accesses ports. As such, an Address Resolution Protocol (ARP) is used disabled for these interfaces. The ARP is a TCP/IP protocol that dynamically binds a network layer IP address to a data link layer physical hardware address. The ARP maps an internet protocol address to a physical machine address that is recognized in the local network. The physical machine address is also known as the MAC address. A table, usually called the cache, is used to maintain a correlation between each MAC address and its corresponding IP address. ARP provides protocol rules for making this correlation and providing address conversion in both directions. When an incoming packet destined for a home machine or a particular Local Area Network (LAN) arrives at a gateway or router, the router asks the ARP program to define a physical host or MAC address that matches the IP address. The ARP program looks in the ARP cache and, if it finds the address, provides it so that the packet can be converted to the right packet length and format and sent to the machine. If no entry is found for the IP address, ARP broadcasts a request packet in a special format to all machines on the network to see if one machine knows that it has the IP address associated with it. The machine that recognizes the IP address as its own returns a reply so indicating. ARP updates the ARP cache for future reference, then sends the packet to the MAC address that replied.

The network service administrator provides remote commands to specific interfaces of routers and switches. The commands recommend the router/switch or interface start-up time, the entire ARP table for the interface being initialized with invalid entries such as Hex-FFFFFF on most IEEE 802.X interfaces. In addition, the network service administrator configures the edge IP routing switch gear to accept and forward DHCP requests from user devices to one or more DHCP servers that have access to the



user and device registration data described in connection with the database 38. When users connect or power on their devices on the shared-medium network access ports  $20^1, \dots, 20^N$  the following operation takes place as described in FIGS. 2-7.

Massarani, col. 5, lines 25-67.

As described in this passage, the clients are unable to communicate beyond the subnet that each is connected without the routers  $22^{1-N}$  providing the DHCP requests to the DHCP server 30. As a result, the clients are unable to communicate without getting an IP address from the DHCP server 30, which is on another subnet or domain. Further, the Massarani reference does not even mention a send-message service, much less registering the send-message service with a service bus. As such, nothing in the Massarani reference discloses the claimed subject matter. Thus, Massarani does not cure the deficiencies of the Aggarwal reference.

Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. In the rejection, the Examiner asserted that the combination is obvious because it would create a method for enabling communication between a first agent and a second agent by registering a message service and would provide for automated registering of services with a network allowing new services with a network to be added without user intervention. However, this statement is an unsupported assertion about the teachings of the references, which is not provided in the references. The Examiner has not provided any evidence of suggestion by the prior art references that the proposed advantages would be expected from the combination. Accordingly, because no teaching or suggestion

supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Aggarwal and Massarani references clearly do not contain each and every element set forth in the independent claims 1, 13 and 18, or the claims depending therefrom. Further, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. Thus, no combination of the references can render the Applicant's claims obvious. Accordingly, the Applicant requests withdrawal of the rejection under Section 103 and allowance of the rejected claims.

#### **Second Rejection under 35 U.S.C. § 103**

The Examiner rejected claim 5 under 35 U.S.C. § 103(a) as being rendered obvious by Aggarwal in view of Massarani and Wray. The Applicant respectfully traverses this rejection.

Claim 5 depends from independent claim 1 that is clearly patentable over the Aggarwal and Massarani references, as discussed above. To reject the claim, the Examiner asserted that the Aggarwal and Massarani references disclose all of the claimed subject matter except that they fail to teach a service bus. In an attempt to remedy these deficiencies, the Examiner relied on the Wray reference, which describes a security entity for implementing a session-level security protocol. *See* Wray, col. 1, paragraph 1. In the reference, the SLS protocol may be utilized with E-speak technology. *See id.* at paragraph 149. Accordingly, the Wray reference simply describes that the security protocol may be utilized with E-speak technology. While the Examiner does not

specifically rely on Wray to disclose the subject matter discussed above, the Wray reference fails to disclose or teach the claimed subject matter. As such, the Wray reference fails to cure the deficiencies of the Aggarwal and Massarani references. Accordingly, in view of the remarks set forth above, the Applicant respectfully submits that the proposed combination does not render the claimed subject matter obvious.

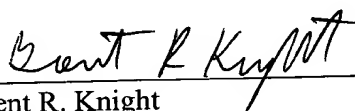
Because the combination cited by the Examiner fails to show all of the claimed subject matter, the Examiner has failed to establish a *prima facie* case of obviousness. Therefore, the Applicant respectfully requests withdrawal of the rejection of claim 5.

**Conclusion**

In view of the remarks set forth above, the Applicant respectfully requests reconsideration of the Examiner's rejections and allowance of all pending claims 1-20. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: October 6, 2004

  
Brent R. Knight  
Reg. No. 54,226  
(281) 970-4545

**CORRESPONDENCE ADDRESS:**

Intellectual Property Administration  
Legal Department, M/S 35  
HEWLETT-PACKARD COMPANY  
P.O. Box 272400  
Fort Collins, CO 80527-2400